

WHAT IS CLAIMED:

1. A method of finding strings having greatest-valued or least-valued results from a plurality of strings, each string consisting of at least one element, comprising the steps of:

determining strings in said plurality of strings sharing one or more elements in common with a given string to provide a set of related strings; determining a result for each string in said set of related strings; and comparing the results associated with said set of related strings to determine one or more strings having the greatest-valued result, or one or more strings having the least-valued result.

2. The method of claim 1, wherein the step of determining a result computes the result for each string in said set of related strings using a computation, said computation defining a relationship between said plurality of strings and a plurality of results.

3. The method of claim 2, wherein the results associated with said set of related strings are numeric results.

4. The method of claim 3, further comprising the step of selecting one string as the string having the greatest-valued result if it is determined that more than one string in said set of related strings has the greatest-valued result.

5. The method of claim 4, further comprising the step of generating a list of strings, each string having the greatest-valued result of all strings in said plurality of strings sharing one or more elements in common with a preceding string or a succeeding string in said list.

6. The method of claim 5, wherein said list of string yields a non-decreasing succession of numeric results and wherein the step of generating a list comprises the steps of:

- 5 (a) adding the string in said set of related strings having the greatest-valued result as a last string in said list;
- (b) determining strings in said plurality of strings sharing one or more elements in common with said last string to provide a set of strings related to said last string;
- 10 (c) determining a result for each string in said set of strings related to said last string;
- (d) comparing the results associated with said set of strings related to said last string to determine one or more strings having the greatest-valued result;
- 15 (e) selecting one string as the string having the greatest-valued result if it is determined that more than one string in said set of strings related to said last string has the greatest-valued result;
- (f) adding the string having the greatest-valued result to end of said list as a new last string if it is determined that said new last string is not equivalent to the last string; and
- 20 (g) repeating steps (b) through (f) until there is no string in said plurality of strings having a result greater than the last string and sharing one or more elements in common with the last string.

7. The method of claim 3, further comprising the step of selecting one string as having the least-valued result if it is determined that more than one string in said set of related strings has the least-valued result.

8. The method of claim 7, further comprising the step of generating a
5 list of strings, each string having the least-valued result of all strings in said plurality of strings sharing one or more elements in common with a preceding string or a succeeding string in said list.

9. The method of claim 8, wherein said list of strings yields a non-increasing succession of numeric results and wherein the step of generating a list
10 comprises the steps of:

(a) adding the string in said set of related strings having the least-valued result as a last string in said list

(b) determining strings in said plurality of strings sharing one or more elements in common with said last string to provide a set of strings related to said
15 last string;

(c) determining a result for each string in said set of strings related to said last string;

(d) comparing the results associated with said set of strings related to said last string to determine one or more strings having the least-valued result;

(e) selecting one string as the string having the least-valued result if it
20 is determined that more than one string in said set of strings related to said last string has the least-valued result;

(f) adding the string having the least-valued result to end of said list as a new last string if it is determined that said new last string is not equivalent to the last string; and

(g) repeating steps (b) through (f) until there is no string in said plurality of strings having a result less than the last string and sharing one or more elements in common with the last string.

10. The method of claim 1, further comprising the step of:

(a) assigning one string from said set of related strings as a first string;

(b) determining strings in said plurality of strings sharing one or more elements in common with said first string to provide a set of strings related to said first string;

(c) determining a result for each string in said set of strings related to said first string;

(d) comparing the results associated with said set of strings related to said first string to determine one or more strings having the greatest-valued result, or one or more strings having the least-valued result;

(e) assigning another string in said set of related strings as said first string; and

(f) repeating steps (b) through (e) for every string in said set of related strings.

11. The method of claim 10, wherein the step (d) further comprises the step of determining whether said first string has the greatest-valued result or the least-valued result.

12. The method of claim 1, further comprising the step of generating pre-computed greatest-valued and pre-computed least-valued lists by pre-determining for each string in said plurality of strings whether said each string has a greatest-valued result or a least-valued result for all strings in said plurality of strings sharing one or more elements in common with said each string.

13. The method of claim 12, further comprising the step of determining whether any string in said set of related strings is in said pre-computed greatest-valued list or in said pre-computed least-valued list.

14. A method of finding strings having greatest-valued or least-valued results from a plurality of strings, each string consisting of at least one element, comprising the steps of:

generating pre-computed greatest-valued and pre-computed least-valued lists by pre-determining for each string in said plurality of strings whether said each string has the greatest-valued result or the least-valued result for all strings in said plurality of strings sharing one or more elements in common with said each string;

determining strings in said pre-computed greatest-valued list sharing one or more elements in common with a given string to provide one or more strings having corresponding greatest-valued results to provide a set of max strings; and determining strings in said pre-computed least-valued list sharing one or more elements in common with a given string to provide one or more strings having corresponding least-valued results to provide a set of min strings.

15. Apparatus for finding strings having greatest-valued or least-valued results from a plurality of strings, each string consisting of at least one element, comprising:

a device for determining strings in said plurality of strings sharing one or more elements in common with a given string to provide a set of related strings;

a computing device for computing a result for each string in said set of related strings; and

a comparator for comparing the results associated with said set of related strings to determine one or more strings having the greatest-valued result, or one or more strings having the least-valued result.

16. The apparatus of claim 15, wherein said computing device computes the result for each string in said set of related strings using a computation, said computation defining a relationship between said plurality of strings and a plurality of results.

17. The apparatus of claim 16, wherein the results associated with said set of related strings are numeric results.

18. The apparatus of claim 17, further comprising a selector for selecting one string as the string having the greatest-valued result if it is determined that more than one string in said set of related strings has the greatest-valued result.

19. The apparatus of claim 18, further comprising a device for generating a list of strings, each string having the greatest-valued result of all

strings in said plurality of strings sharing one or more elements in common with a preceding string or a succeeding string in said list.

20. The apparatus of claim 19, wherein said list of strings yields a non-decreasing succession of numeric results and wherein said device for generating
5 comprises a control device for adding the string in said set of related strings having the greatest-valued result as a last string in said list, for operating said device for determining to determine strings in said plurality of strings sharing one or more elements in common with said last string to provide a set of strings related to said last string, for operating said computing device to compute a result
10 for each string in said set of strings related to said last string, and for operating said comparator to compare the results associated with said set of strings related to said last string to determine one or more strings having the greatest-valued result, for operating said selector to select one string as the string having the greatest-valued result if it is determined that more than one string in said set of
15 strings related to said last string has the greatest-valued result, and for adding the string having the greatest-valued result to end of said list as a new last string if it is determined that said new last string is not equivalent to the last string.

21. The apparatus of claim 17, further comprising a selector for
selecting one string as having the least-valued result if it is determined that more
20 than one string in said set of related strings has the least-valued result.

22. The apparatus of claim 21, further comprising a device for generating a list of strings, each string having the least-valued result of all strings

in said plurality of strings sharing one or more elements in common with a preceding string or a succeeding string in said list.

23. The apparatus of claim 22, wherein said list of strings yields a non-increasing succession of numeric results and wherein said device for generating
5 comprises a control device for adding the string in said set of related strings having the least-valued result as a last string in said list, for operating said device for determining to determine strings in said plurality of strings sharing one or more elements in common with said last string to provide a set of strings related to said last string, for operating said computing device to compute a result for
10 each string in said set of strings related to said last string, and for operating said comparator to compare the results associated with said set of strings related to said last string to determine one or more strings having the least-valued result, for operating said selector to select one string as the string having the least-valued result if it is determined that more than one string in said set of strings related to
15 said last string has the least-valued result, and for adding the string having the least-valued result to end of said list as a new last string if it is determined that said new last string is not equivalent to the last string.

24. The apparatus of claim 15, further comprising a control device for assigning one string from said set of related strings as a first string, for operating
20 said device for determining strings to determine strings in said plurality of strings sharing one or more elements in common with said first string to provide a set of strings related to said first string, for operating said computing device to compute a result for each string in said set of strings related to said first string, and for

operating said comparator to compare the results associated with said set of strings related to said first string to determine one or more strings having the greatest-valued result, or one or more strings having the least-valued result.

25. The apparatus of claim 24, wherein said control device is operable
5 to control said device for determining to determine whether said first string has the greatest-valued result or the least-valued result.

26. The apparatus of claim 15, further comprising:
a device for generating pre-computed greatest-valued and pre-computed
least-valued lists by pre-determining for each string in said plurality of strings
10 whether said each string has a greatest-valued result or a least-valued result for all strings in said plurality of strings sharing one or more elements in common with said each string; and

a storing device for storing said pre-computed greatest-valued and pre-computed least-valued lists.

15 27. The apparatus of claim 26, wherein said device for determining strings is operable to determine whether any string in said set of related strings is in said pre-computed greatest-valued list or in said pre-computed least-valued list.

28. Apparatus for finding strings having greatest-valued or least-valued results from a plurality of strings, each string consisting of at least one
20 element, comprising:

a device for generating pre-computed greatest-valued and pre-computed least-valued lists by pre-determining for each string in said plurality of strings whether said each string has the greatest-valued result or the least-valued result

for all strings in said plurality of strings sharing one or more elements in common with said each string;

a storage device for storing said pre-computed greatest-valued and pre-computed least-valued lists; and

5 a device for determining strings in said pre-computed greatest-valued list sharing one or more elements in common with a given string to provide one or more strings having corresponding greatest-valued results to provide a set of max strings, and determining strings in said pre-computed least-valued list sharing one or more elements in common with a given string to provide one or more strings
10 having corresponding least-valued results to provide a set of min strings.

Sub a: 29. A method of finding queries having greatest-valued or least-valued results, comprising the steps of:

receiving a user query consisting of at least one computation and an attribute-valued string having one or more elements, each element being
15 associated with an attribute having a value assigned by a user or a user process;

determining queries in a plurality of queries having said at least one computation and sharing one or more elements in common with the user query to provide a set of related queries;

computing a result of said at least one computation for the attribute-valued
20 string associated with each query in said set of related queries; and

comparing the results associated with said set of related queries to determine one or more queries having the greatest-valued result, or one or more queries having the least-valued result.

30. The method of claim 29, wherein the step of receiving comprises the steps of:

selecting said at least one computation from a plurality of computations in response to a user or user process input;

5 selecting one or more attributes from a plurality of attributes in response to the user input; and

selecting a value for each attribute selected in response to the user input to form an element.

31. The method of claim 30, wherein said at least one computation
10 defines relationship between said plurality of queries and a plurality of results.

32. The method of claim 31, wherein the results associated with said of related queries are numeric results.

33. The method of claim 32, further comprising the step of selecting one query as the query having the greatest-valued result if it is determined that
15 more than one query in said set of related queries has the greatest-valued result.

not ac 34. The method of claim 33, further comprising the step of generating a list of queries having said at least one computation, each query being associated with an attribute-valued string having the greatest-valued result of all queries in said plurality of queries sharing one or more elements in common with a
20 preceding query or a succeeding query in said list.

35. The method of claim 34, wherein said list of queries yields a non-decreasing succession of numeric results and wherein the step of generating a list comprises the steps of:

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37. The method of claim 36, further comprising the step of generating a list of queries having said at least one computation, each query being associated with an attribute-valued string having the least-valued result of all queries in said plurality of queries sharing one or more elements in common with a preceding query or a succeeding query in said list.

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38. The method of claim 37, wherein said list of queries yields a non-increasing succession of numeric results and wherein the step of generating a list comprises the steps of:

- (a) adding the query in said set of related queries having the least-valued result as a last query in said list;
- (b) determining queries in said plurality of queries having said at least one computation and sharing one or more elements in common with said last query to provide a set of queries related to said last query;
- (c) computing a result of said at least one computation for the attribute-valued string associated with each query in said set of queries related to said last query;
- (d) comparing the results associated with said set of queries related to said last query to determine one or more queries having the least-valued result;
- (e) selecting one query as the query having the least-valued result if it is determined that more than one query in said set of queries related to said last query has the least-valued result;

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(f) adding the query having the least-valued result to end of said list as a new last query if it is determined that said new last query is not equivalent to the last query; and

(g) repeating steps (b) through (f) until there is no query in said plurality of queries having a result less than the last query and sharing one or more elements in common with the last query.

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39. The method of claim 29, further comprising the step of:

- (a) assigning one query from said set of related queries as a first query;
- 10 (b) determining queries in said plurality of queries having said at least one computation and sharing one or more elements in common with said first query to provide a set of queries related to said first query;
- (c) computing a result of said at least one computation for the attribute-valued string associated with each query in said set of queries related to
15 said first query;
- (d) comparing the results associated with said set of queries related to said first query to determine one or more queries having the greatest-valued result; or one or more queries having the least-valued result;
- (e) assigning another query in said set of related queries as said first
20 query; and
- (f) repeating steps (b) through (e) for every query in said set of related queries.

40. The method of claim 39, wherein the step (d) further comprises the steps of determining whether said first query has the greatest-valued result or the least-valued result.

41. The method of claim 29, further comprising the step of generating pre-computed greatest-valued and pre-computed least-valued lists by pre-determining for each query in said plurality of queries whether said each query has a greatest-valued result or a least-valued result for all queries in said plurality of queries having said at least one computation and sharing one or more elements in common with said each query.

10 42. The method of claim 41, further comprising the steps of:
determining whether any query in said set of related queries is in said pre-computed greatest-valued list to provide a set of max queries; and
determining whether any query in said set of related queries is in said pre-computed least-valued list to provide a set of min queries.

15 43. The method of claim 29, further comprising the step of displaying the user query and the result of the user query along with the greatest-valued result and one or more queries having the greatest-valued result.

20 44. The method of claim 43; wherein the step of displaying further displays the least-valued result and one or more queries having the least-valued result.

45. The method of claim 35, further comprising the step of displaying the user query and the result of the user query along with each query and the corresponding greatest-valued result in said list.

47. The method of claim 40, wherein the step (d) further comprises the
5 step of displaying the user query and the result of the user query along with said
first query and the corresponding greatest-valued result if it is determined that
said first query has the greatest-valued result.

48. The method of claim 47, wherein the step displaying further displays said first query and the corresponding least-valued result if it determined that said first query has the least-valued result.

49. The method of claim 42, further comprising the steps of:
determining whether any query in said pre-computed greatest-valued list is
not in said set of max queries; and

determining whether any query in said pre-computed least-valued list is
15 not in said set of min queries.

50. A method of finding queries having greatest-valued or least-valued results from a plurality of queries, each query having at least one computation and consisting of an attribute-valued string having one or more elements, each element being associated with an attribute having a value, comprising the steps of:

generating pre-computed greatest-valued and pre-computed least-valued lists for each computation in a plurality of computations by:

pre-determining queries in said plurality of queries having said
each computation to provide a set of computationally related queries; and

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54. A method of finding queries having greatest-valued or least-valued results from a plurality of queries, comprising the steps of:
- (a) receiving a user query consisting of a plurality of computations and an attribute-valued string having one or more elements, each element being
 - 5 associated with an attribute having a value assigned by a user;
 - (b) assigning one computation from said plurality of computations as a first computation;
 - (c) determining queries in said plurality of queries having said first computation to provide a set of computationally related queries;
 - 10 (d) determining queries in said set of computationally related queries sharing one or more elements in common with the user query to provide a set of related queries;
 - (e) computing a result of said first computation for the attribute-valued string associated with each query in said set of related queries;
 - 15 (f) comparing the results associated with said set of related queries to determine one or more queries having the greatest-valued result or one or more queries having the least-valued result;
 - (g) assigning another computation from said plurality of computations as said first computation, and
 - 20 (h) repeating steps (f) through (g) for every computation in said plurality of computations.

55. The method of claim 54, wherein the step (d) further comprises the steps of:

(i) assigning one query from said set of related queries as a first query;

(j) determining queries in said set of computationally related queries sharing one or more elements in common with said first query to provide a set of queries related to said first query;

(k) computing a result of said first computation for the attribute-valued string associated with each query in said set of queries related to said first query;

(l) comparing the results associated with said set of queries related to said first query to determine one or more queries having the greatest-valued result, or one or more queries having the least-valued result;

(m) assigning another query in said set of related queries as said first query; and

(n) repeating steps (j) through (m) for every query in said set of related queries.

15 56. The method of claim 55, wherein the step (l) further comprises the step of determining whether said first query has the greatest valued-result or the least-valued result.

57. Apparatus for finding queries having greatest-valued or least-valued results, comprising:

20 a device for receiving a user query consisting of at least one computation and an attribute-valued string having one or more elements, each element being associated with an attribute having a value assigned by a user;

a device for determining queries in said plurality of queries having said at least one computation and one or more elements in common with the user query to provide a set of related queries;

a computing device for computing a result of said at least one computation
5 for the attribute-valued string associated with each query in said set of related queries; and

a comparator for comparing the results associated with said set of related queries to determine one or more queries having the greatest-valued result or one or more queries having the least-valued result.

10 58. The apparatus of claim 57, wherein said device for receiving is operable to select said at least one computation from a plurality of computations in response to a user or user process input, to select one or more attributes from a plurality of attributes in response to the user input, and to select a value for each attribute selected in response to the user input to form an element.

15 59. The apparatus of claim 58, wherein said at least one computation defines relationship between said plurality of queries and a plurality of results.

60. The apparatus of claim 59, wherein the results associated with said of related queries are numeric results.

20 61. The apparatus of claim 60, further comprising a selecting device for selecting one query as the query having the greatest-valued result if it is determined that more than one query in said set of related queries has the greatest-valued result.

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Sub 98

62. The apparatus of claim 61, further comprising a generating device for generating a list of queries having said at least one computation, each query being associated with an attribute-valued string having the greatest-valued result of all queries in said plurality of queries sharing one or more elements in common with a preceding query or a succeeding query in said list.

63. The apparatus of claim 62, wherein said list of queries yields a non-decreasing succession of numeric results and wherein said generating device comprises a control device for adding the query having the greatest-valued result as a last query in said list, for operating said device for determining to determine queries in said plurality of queries having said at least one computation and sharing one or more elements in common with said last query to provide a set of queries related to said last query, for operating said computing device to compute a result of said at least one computation for the attribute-valued string associated with each query in said set of queries related to said last query, for operating said comparator to compare the results associated with said set of queries related to said last query to determine one or more queries having the greatest-valued result, for selecting one query as the query having the greatest-valued result if it is determined that more than one query in said set of queries related to said last query has the greatest-valued result, and for adding the string having the greatest-valued result to end of said list as a new last query if it is determined that said new last query is not equivalent to said last query.

Sub 17

64. The apparatus of claim 60, further comprising a selecting device for selecting one query as the query having the least-valued result if it is

determined that more than one query in said set of related queries has the least-valued result.

65. The apparatus of claim 64, further comprising a generating device for generating a list of queries having said at least one computation, each query being associated with an attribute-valued string having the least-valued result of all queries in said plurality of queries sharing one or more elements in common with a preceding query or a succeeding query in said list.

66. The apparatus of claim 65, wherein said list of queries yields a non-decreasing succession of numeric results and wherein said generating device comprises a control device for adding the query in said of related queries having the least-valued result as a last query in said list for operating said device for determining to determine queries in said plurality of queries having said at least one computation and share one or more elements in common with said last query to provide a set of queries related to said last query, for operating said computing device to compute a result of said at least one computation for the attribute-valued string associated with each query in said set of queries related to said last query, for operating said comparator to compare the results associated with said set of queries related to said last query to determine one or more queries having the least-valued result, for selecting one query as the query having the least-valued result if it is determined that more than one query in said set of queries related to said last query has the least-valued result, and for adding the query having the least-valued result to end of said list as a new last query if it is determined that said new last query is not equivalent to said last query.

98
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67. The apparatus of claim 57, further comprising a control device for assigning one query from said set of related queries as a first query, for operating said device for determining to determine queries in said plurality of queries having said at least one computation and sharing one or more elements in common with said first query to provide a set of queries related to said first query, for operating said computing device to compute a result of said at least one computation for the attribute-valued string associated with each query in said set of queries related to said first query, for operating said comparator to compare the results associated with said set of queries related to said first query to determine one or more queries having the greatest-valued result, or one or more queries having the least-valued result, and for assigning another query in said set of related queries as said first query.

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68. The apparatus of claim 67, wherein said control device is operable to control said device for determining to determine whether said first query has the greatest-valued result or the least-valued result.

69. The apparatus of claim 57, further comprising :

a device for generating pre-computed greatest-valued and pre-computed least-valued lists by pre-determining for each query in said plurality of queries whether said each query has the greatest-valued result or the least-valued result for all queries in said plurality of queries having said at least one computation and sharing one or more elements in common with said each query; and

a storing device for storing said pre-computed greatest-valued and pre-computed least-valued results.

70. The apparatus of claim 69, wherein said control device is operable to operate said device for determining to determine whether any query in said set of related queries is in said pre-computed greatest-valued list to provide a set of max queries and to determine whether any query in said set of related queries is in said pre-computed least-valued list to provide a set of min queries.

71. The apparatus of claim 57, further comprising a display device for displaying the user query and the result of the user query along with the greatest-valued result and one or more queries having the greatest-valued result.

72. The apparatus of claim 71, wherein said display device is operable to display the least-valued result and one or more queries having the least-valued result.

73. The apparatus of claim 63, further comprising a display device for displaying the user query and the result of the user query along with each query and the corresponding greatest-valued result in said list.

74. The apparatus of claim 66, further comprising a display device for displaying the user query and the result of the user query along with each query and the corresponding least-valued result in said list.

75. The apparatus of claim 70, wherein said control device is operable to operate said device for determining to determine whether any query in said pre-computed greatest-valued list is not in said set of max queries and to determine whether any query in said pre-computed least-valued list is not in said set of min queries.

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76. Apparatus for finding queries having greatest-valued or least-valued results from a plurality of queries, each query having at least one computation and consisting of an attribute-valued string having one or more elements, each element being associated with an attribute having a value,
- 5 comprising:
- a device for generating pre-computed greatest-valued and pre-computed least-valued lists for each computation in a plurality of computations by pre-determining queries in said plurality of queries having said each computation to provide a set of computationally related queries and pre-determining for each
 - 10 query in said set of computationally related queries whether said each query has the greatest-valued result or the least-valued result for all queries in said set of computationally related queries sharing one or more elements in common with said each query;
 - a receiver for receiving a user query consisting of at least one computation
 - 15 and one or more elements assigned by a user or user process;
 - a selector for selecting said pre-computed greatest-valued list and said pre-computed least-valued list associated with said at least one computation of the user query; and
 - a device for determining queries in said selected pre-computed greatest-
 - 20 valued list sharing one or more elements in common with the user query to provide one or more queries having corresponding greatest-valued results to provide a set of max queries and determining queries in said selected pre-computed least-valued list sharing one or more elements in common with the user

query to provide one or more queries having corresponding least-valued results to provide a set of min queries.

77. The apparatus of claim 76, wherein each computation in said plurality of computation defines a relationship between said plurality of queries and a plurality of results.

78. The apparatus of claim 76, further comprising a display device for displaying the user query and the result of the user query along with each query and the corresponding greatest-valued result in said set of max queries.

79. The apparatus of claim 76, wherein the step of displaying displays each query and the corresponding least-valued result in said set of min queries.

80. The apparatus of claim 79, wherein said computing device is operable to compute results for sports data

81. The apparatus of claim 79, wherein said computing device is operable to compute results for call center data.

82. The apparatus of claim 79, wherein said computing device is operable to compute results for customer relationship management data.

83. The apparatus of claim 79, wherein said computing device is operable to compute results for banking data.

84. The apparatus of claim 79, wherein said computing device is operable to compute results for multimedia data.

85. The apparatus of claim 79, wherein said computing device is operable to compute results for textual data.

86. The apparatus of claim 80, wherein said sports data includes tennis data.

87. The apparatus of claim 80, wherein said sports data includes soccer data.

5 88. The apparatus of claim 80, wherein said sports data includes golf data.

89. The apparatus of claim 80, wherein said sports data includes football data.

10 90. The apparatus of claim 80, wherein said sports data includes basketball data.

91. The apparatus of claim 80, wherein said sports data includes baseball data.

92. The apparatus of claim 80, wherein said sports data includes cricket data.

15 93. Apparatus of finding queries having greatest-valued or least-valued results from a plurality of queries, comprising:

a receiver for receiving a user query consisting of a plurality of computations and an attribute-valued string having one or more elements, each element being associated with an attribute having a value assigned by a user;

20 a device for assigning one computation from said plurality of computations as a first computation;

a device for determining queries in said plurality of queries having said first computation to provide a set of computationally related queries and

determining queries in said set of computationally related queries sharing one or more elements in common with the user query to provide a set of related queries;

a computing device for computing a result of said first computation for the attribute-valued string associated with each query in said set of related queries;

5 a comparator for comparing the results associated with said set of related queries to determine one or more queries having the greatest-valued result or one or more queries having the least-valued result; and

a control device for controlling said device for assigning to assign another computation from said plurality of computations as said first computation.

10 94. The apparatus of claim 93, wherein said control device is operable to operate said device for assigning to assign one query from said set of related queries as a first query, for operating said device for determining to determine queries in said set of computationally related queries sharing one or more elements in common with said first query to provide a set of queries related to
15 said first query, for operating said computing device to compute a result of said first computation for the attribute-valued string associated with each query in said set of queries related to said first query, for operating said comparator to compare the results associated with said set of queries related to said first query to determine one or more queries having the greatest-valued result, or one or more
20 queries having the least-valued result, and for operating said device for assigning to assign another query in said set of related queries as said first query.

